MODIS Technical Team Meeting
Thursday, August 15, 2002
Building 33, Room F225

Vince Salomonson chaired the meeting. In attendance were Barbara Conboy, Shaida Johnston, Bill Barnes, Jack Xiong, Wayne Esaias, Michael King, Ed Masuoka, and Steve Kempler, with Yolanda Harvey taking the minutes.

1.0 Upcoming Events

- Remote Sensing of the Earth's Environment from Terra, a Workshop at the International Summer School on Atmospheric and Oceanic Science, August 25-30, 2002, L'Aquila, Italy
- 34th COSPAR Scientific Assembly, October 10-19, 2002, Houston, TX (abstract deadline past)
- MODIS Outreach Workshop on Land Surface Radiation and Snow and Ice Products, October 21-22, 2002, Boston, MA

2.0 Meeting Minutes

2.1 General Discussion

Salomonson started the meeting by showing an image of the Oregon fires, saying that it was featured on the NASA homepage. It is nice to have some of the Earth Science products up on the main NASA site.

Salomonson expressed a concern that our understanding of the radiation environment is not increasing as we go along. He asked whether having SEUs evinces a lack of understanding of radiation on our part, but Barnes said no, there's no way to protect against all radiation. SEUs are bound to happen. King said that the Taiwan space agency has a sensor that measures and monitors the South Atlantic Anomaly field. Salomonson said that MISR gathered some very interesting observations early in the Terra mission. Barnes said that MISR is having a calibration workshop in early September and that Xiong will be attending.

Salomonson said that Jim Simpson from Scripps is coming to visit September 16th to discuss differences in DAAC L1B data and direct readout L1B; he will send some examples in advance.

Salomonson said that Yoram Kaufman wants to know if time-based granules could also be geodetically based. Masuoka said that it can be done, but not until Collection 5. King said that no one in his group has expressed interest in this possibility. Masuoka said that the variation is slightly time dependent, and that the L3 processing will put the data into a global grid. Masuoka said that making the change would have big implications for all users, and said that he may be able to give Kaufman a tool to allow him to do what he wants thereby avoiding having to change the larger data processing systems.

Conboy said that all but one of the presentations from the Science Team Meeting are up on the MODIS site. The only presentation missing is Chris Justice's introduction from the second day of plenary.

Harvey announced that the Aqua first light press release went out today (August 15, 2002).

Salomonson said that he has been following up on matters raised about data product access during the panel discussion at the Science Team meeting. He has visited with the EDG folks via R. Pfister, who subsequently has also visited with the members of the panel at the Science Team meeting and are having good exchanges. The issue of easy, ready access to MODIS products needs much further examination and resolution of the perceived and real problems. Salomonson will continue to interface with relevant people in the EOSDIS including the EDG people and the DAACs

2.2 Instrument Status

2.2.1 Aqua MODIS

Barnes showed a slide illustrating the difference between good and bad detectors on Aqua; 11 detectors are dead, only 9 are good. King said that they've changed their cloud retrieval code so that they are not using Band 6 in Aqua, but are still using Band 6 in Terra. Barnes also reported that they lost half an orbit of day-band data because of a garbled night-to-day mode change command. There is not enough telemetry to tell what happened, nor can the people at Santa Barbara figured it out yet. At this point, they can only wait and see if it is in the right mode when it comes out of the dark portion of the orbit.

2.2.2 Terra MODIS

Barnes showed another slide detailing the gains that had flattened out may be going back up again (i.e. the sensitivity of Bands 3, 8, and 9 are decreasing again). Lunar observations show the same indication. They are getting another SRCA measurement that may give more details on the pattern. The gains had leveled off last October, and now in the last couple of weeks they've been going back up.

Barnes reported that they had a meeting on cross-calibration with SeaWiFS that went well. Also, the SBRS MODIS development contract will close down in September. There was a plot of MISR ratioed against MODIS (443 nm band), and it showed a 20% difference across the MISR swath. It is thought it has something to do with the MISR diffuser, which is used at very oblique angles.

2.3 DAAC

Kempler reported that Aqua forward processing is going well and that they're near the leading edge. Terra forward processing is only four hours behind the leading edge. Oceans reprocessing is going well – they are about one day ahead of their current schedule.

Kempler reported that they are now looking at the impacts of subsetting and sub-sampling on distribution. Their data pool is not up at the moment, but they are up to 55TB of data, including L3 Oceans 4km data. There is no concrete setting on its organization; it's a big mobile matrix. They cut back on some L1 data because there was

a lot more than necessary in there. Johnston asked if some of the organization has to be concrete, and Kempler said no, but they did have to reconfigure their design to get up to 55 TB. Concerning the discussion of data mining off of the data pool, Andy Dessler (U of MD) came over and is ecstatic because he was shown a way to readily get what he wants.

Kempler reported that he had subsetting discussions with Wayne Esaias and Bob Evans. There are two problems in L2; there are six files in different spots that make them impossible to extract, but that the data pool makes possible. He suggested that the data be divided by geographic region to make it easier to order data for subsetting. Salomonson asked whether that would work for Atmospheres data too, and Johnston said that they are working on fixing the divisions for each discipline. She continued that whatever they do end up applying, they need to use the WHOM interface as opposed to the EDG. Kempler said that on WHOM, number of users has increased 65%, which is why they feel comfortable using sub-setters through WHOM. He indicated that there is some interest in using WHOM across the GDAAC. He also said that there are some parallels to the Atmosphere/AMSR system.

2.4 MODAPS

Masuoka asked Kempler if the recent high levels of ordering (1 TB) are normal or due to any certain phenomenon. Kempler said that it seems to be a trend. He said that the ordering level has been increasing over the last couple months, and that Masuoka may want to think about granule numbers rather than volume as a measure of traffic. He said that the center had some hacking problems that prompted them to cut the MODIS links to the outside world. It has been fixed. He reported that they are still on schedule for reprocessing Atmospheres in October, and it depends on last part of Oceans reprocessing. Atmospheres reprocessing will probably occur on October 15. Land will be no earlier than November 1. Masuoka reported that they had a 1TB disk crash, but were able to recover the data in about a day. They restored all but 50 files in the crash, which they reordered from the DAAC. They are seeing if taping ocean dailies will slow production down, but he thinks there won't be any strain, and he wants to tape those files that are most at risk. All they can do at the moment is hope that nothing happens to wipe out the backlog. Finally, the DAAC is integrating geolocation 1b, and are willing to do the science test before the others and will redo the test if people report problems.

2.5 Oceans

Esaias reported that they are preparing a 2 volume Oceans CD, which is being burned today, and he will give it to Steve Graham to make copies. Esaias is looking for ways to have these CD's delivered for a Terra Summer School Course in Italy. King said that if he can't take them, he knows that Vermote is going and may be able to hand them out. Esaias said that they have movies on the CD for 7 ocean parameters of 2001 weeklies. Overall he says that they are making great progress.

2.6 Atmospheres

King reported that the Atmospheres group is working hard on the cloud optical properties product (MOD 06), and they are planning a major update that vastly improves the physics and retrieval accuracy. He said that last week they added placeholders for quality assurance flags in this L2 code; L3 already aggravated QA

weighted means as well as unweighted means, so the QA flags added to the L2 code will automatically propagate through the production system that will be implemented for Collection 4. They are also taking out parameters that are never used. They will declare it validated when they turn it in. As for Collection 3 testing with the ARM CART site, the agreement between Collection 3 cloud optical thickness and effective radius of water clouds and co-located radar and lidar analysis from Jay Mace is quite good.

3.0 Action Items

3.1 New Action Items

None.

3.2 Action Items Carried Forward

3.2.1 Technical team to discuss further the issue of predicted ephemeris data and how to improve it.
Status: Open.
Ed Masuoka and Robert Wolfe plan to meet with the Terra Flight Operations Team to see if they can run definitive ephemeris 2-4 times per day. The context for this issue to provide better geolocation information for things like fire front tracking and similar issues.

3.2.2 The procedure for releasing Aqua MODIS products needs to be further refined via Discipline discussions and coordination with the Science Team leader, et al.
Status: Open.

3.2.3 Yolanda Harvey to forward information about Aqua MODIS US West Coast image to Atmospheres so that they can process images for the Aqua MODIS first light poster.
Status: Closed.